In the Specification:

Please replace paragraph **[0003]** with new paragraph **[0003]**, shown below.

[0003] Projection lithography is a powerful and essential tool for microelectronics processing and has supplanted proximity printing. "Long" or "soft" x-rays (a.k.a. Extreme UV) (wavelength [[rate]] range of 10 to 20 nm) are now at the forefront of research in efforts to achieve smaller transferred feature sizes. With projection photolithography, a reticle (or mask) is imaged through a reduction-projection (demagnifying) lens onto a wafer. Reticles for EUV projection lithography typically comprise a glass substrate coated with an EUV absorbing material covering portions of the reflective surface. In operation, EUV radiation from the illumination system (condenser) is projected toward the surface of the reticle and radiation is reflected from those areas of the reticle reflective surface which are exposed, i.e., not covered by the EUV absorbing material. The reflected radiation is re-imaged to the wafer using a reflective optical system and the pattern from the reticle is effectively transcribed to the wafer.

Please replace paragraph **[0004]** with new paragraph **[0004]**, shown below.

[0004] A source of EUV radiation is the laser-produced plasma EUV source, which depends upon a high power, pulsed laser (e.g., a yttrium aluminum garnet ("YAG") laser, or an excimer laser, delivering ~~500 to 1,000~~ 2000 to 10,000 watts of power to a 50 μm to 250 μm spot, thereby heating a source material to, for example 250,000 to 500,000°C, to emit EUV radiation from the resulting plasma. Plasma sources are compact, and may be dedicated to a single ~~production line so~~ lithography tool that malfunction of one source or tool does not close down the entire plant. A stepper employing a laser-produced plasma source is relatively inexpensive and could be housed in existing facilities. It is expected that EUV sources suitable for photolithography that provide bright, incoherent EUV and that employ physics quite different from that

of the laser-produced plasma source will be developed. One such source under development is the EUV discharge source.

Please replace paragraph **[0005]** with new paragraph **[0005]**, shown below.

[0005] EUV lithography machines for producing integrated circuit components are described, for example, in U.S. Patent No. 6,031,598 to Tichenor et al. Referring to Figure 7, the EUV lithography machine comprises a main vacuum or projection chamber 102 and a source vacuum chamber 104. Source chamber 104 is connected to main chamber 102 through an airlock valve (not shown) which permits either chamber to be accessed without venting or contaminating the environment of the other chamber. Typically, a laser beam 130 is directed by turning mirror 132 into the source chamber 104. A high density gas <u>or liquid stream</u>, such as xenon, is injected into the plasma generator 136 through gas supply 134 and the interaction of the laser beam 130, and gas supply 134 creates a plasma giving off the illumination used in EUV lithography. The EUV radiation is collected by segmented collector 138, that collects about 30% of the available EUV light, and the radiation 140 is directed toward the pupil optics 142. The pupil optics consists of long narrow mirrors arranged to focus the rays from the collector at grazing angels onto an imaging mirror 143 that redirects the illumination beam through filter/window 144. Filter 144 passes only the desired EUV wavelengths and excludes scattered laser beam light in chamber 104. The illumination beam 145 is then reflected from the relay optics 146, another grazing angel mirror, and then illuminates the pattern on the reticle 148. Mirrors 138, 142, 143, and 146 together comprise the complete illumination system or condenser. The reflected pattern from the reticle 148 then passes through the projection optics 150 which reduces the image size to that desired for printing on the wafer. After exiting the projection optics 150, the beam passes through vacuum window 152. The beam then prints its pattern on wafer 154.

Please replace paragraph **[0006]** with new paragraph **[0006]**, shown below.

[0006] Production of ~~Debris generated~~ debris and high energy ions by the plasma source is one of the most significant impediments to the successful development of photolithography. In particular, ~~debris tends~~ species tend to erode the optics used to collect the EUV light which severely degrades their EUV reflectance. Ultimately, the erosion will reduce the optics' efficiency to a point where they must be replaced frequently. The art is in search of techniques that address this problem.